UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/593,424	01/18/2007	Rudolf Ritter	296414US2PCT	1265

23446 7590 09/30/2011

MCANDREWS HELD & MALLOY, LTD
500 WEST MADISON STREET
SUITE 3400
CHICAGO, IL 60661

EXAMINER	
PHAN, HAI	

ART UNIT	PAPER NUMBER
2614	

NOTIFICATION DATE	DELIVERY MODE
09/30/2011	ELECTRONIC

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

mhmpto@mcandrews-ip.com

Office Action Summary	Application No.	Applicant(s)	
	10/593,424	RITTER ET AL.	
	Examiner	Art Unit	
	Hai Phan	2614	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE *3* MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *06 September 2011*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ An election was made by the applicant in response to a restriction requirement set forth during the interview on _____; the restriction requirement and election have been incorporated into this action.

4)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

5)☒ Claim(s) *27-64* is/are pending in the application.

5a) Of the above claim(s) _____ is/are withdrawn from consideration.

6)☐ Claim(s) _____ is/are allowed.

7)☒ Claim(s) *27-64* is/are rejected.

8)☐ Claim(s) _____ is/are objected to.

9)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

10)☐ The specification is objected to by the Examiner.

11)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

12)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

13)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☐ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

DETAILED ACTION

Continued Examination Under 37 CFR 1.114

1. A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on 08/26/11 has been entered.

Claim Rejections - 35 USC § 103

2. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

3. This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to

consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

4. Claims 27-34, 37-38, 53 and 55-64 are rejected under 35 U.S.C. 103(a) as being unpatentable over Chen et al (Pub No. WO 2004/016037; hereinafter referred to as Chen) in view of Gollmar et al (Patent 4,901,354; hereinafter referred to as Gollmar). Regarding claims 27-28, 53 and 55-56 Chen discloses a system for acoustical communication comprising an eyeglass frame (Fig. 1) having plurality of directionally dependent microphones (microphone arrays 1, 2, 3, 4) to capture voice signals of a user (page 16, lines 10 and 20-23), a transmitter configured to transmit the captured voice signals (8, 9) to one or more external electronic devices (10).

Chen fails to teach a control module configured to adjust directional dependence of at least a first directionally dependent microphone of said plurality of directionally dependent microphones based on the voice signals captured by the first directionally dependent microphone and at least a second directionally dependent microphone wherein said second directionally dependent microphone is located on an ear engaging portion of said eyeglass frame for capturing bodily vibration sound waves.

However, Gollmar discloses a device for improving voice detection having main microphone for measuring voice, microphone for measuring ambient noise, and a contact microphone for capturing bodily vibration sound waves in combination with the main voice microphone (col. 2, lines 3-8). Therefore, it would have been obvious to a person of ordinary skill in the art at the time the invention was made to incorporate the

contact microphone as taught by Gollmar into the system of Chen so that ambient noise can be eliminated (Gollmar's col. 1, lines 61-68). Since it is a common knowledge that the eyeglass frame rests on the ears of the user via the ear engaging portion of the frame, one of ordinary skill in the art would recognize this common knowledge to place the second microphone on the ear engaging portion so it can contact the human body.

Regarding claims 29 and 57, Chen further discloses a third microphone for capturing ambient noise (page 6, lines 15-16; Fig. 2, mini-microphones 101, 102), the signal captured by the first microphone is filtered by filter (Fig. 2, elements 110A, 110B), and the signal received from the first microphone is improved by the ambient noise received from the third microphone (via active noise control circuits 107A and 107B of Fig. 2).

Regarding claims 30 and 58, Chen further discloses (in Fig. 6) an amplifier (601 or 606) controllable by the signal captured by a third microphone (101).

Regarding claims 31 and 59, Chen further discloses that the signal captured by the microphone is processable based on reference filters (LPF as part of 112 in Fig. 2 and/or filter process of filters 110A and 110B; see also page 21, lines 14-16 and 25-16).

Regarding claims 32 and 60, Chen further discloses that the at least one directionally dependent microphone is implemented as at least one microphone array (microphone array 15 of Fig. 2; see 10, line 20).

Regarding claims 33 and 61, Chen further discloses that the microphone array is implemented in MEMS technology (page 15, lines 1-4).

Regarding claims 34 and 62, Chen further discloses that the external devices could be one of the various mobile devices including phone, radio, CD player, etc. (page 25, lines 2-4).

Regarding claims 37-38 and 63-64, the combination Chen and Gollmar fails to teach the speech recognition module for capturing spoken commands and the Bluetooth, or ZigBee, GSM, or UMTS interfaces. However, the Examiner takes Official Notice, which is now considered admitted prior art since the Applicant has not challenged the Official Notice used in the prior office action, that speech recognition module for capturing spoken commands and the various claimed communications interfaces are very well-known in the art. Therefore, it would have been obvious to a person of ordinary skill in the art at the time the invention was made to incorporate the speech recognition module into the combined system of Chen and Gollmar so that certain functions can be conveniently carried out without physical manipulation, and to utilize one of the well-known interfaces into the system of Chen and Gollmar's depending on the network and/or device the system is to be connected so that compatibility can be achieved.

5. Claim 35 is rejected under 35 U.S.C. 103(a) as being unpatentable over Chen in view of Gollmar as applied to claims 27-34, 37-38, 53 and 55-64 above, and further in view Butler et al (Patent US 6,474,816).

Regarding claim 35, the combination of Chen and Gollmar fails to teach the eyeglass frame comprises means for retinal scanning display. However, Butler et al

teach an integrated retinal display mounted on the eyeglasses comprising means for retinal scanning display (see Fig. 1; col. 2, lines 23-34). Therefore, it would have been obvious to a person of ordinary skill in the art at the time the invention was made to incorporate the means for retinal scanning display as taught by Butler et al into the combined system of Chen and Gollmar's because this would allow the user to be able to view video display along with voice communication via an eyeglasses; thus avoiding additional external display device.

6. Claim 36 is rejected under 35 U.S.C. 103(a) as being unpatentable over Chen in view of Gollmar and Butler et al as applied to claim 35 above, and further in view of Nestorovic et al (Pub No. US 2004/0155186).

The combination of Chen, Gollmar and Butler et al fails to teach a direction module which is configured to capture a direction of view. However, Nestorovic et al teach a direction module for capturing a direction of view used in the retinal scanning display (gaze tracker for detecting the gaze direction of the viewer so the image information is produced in response to the determined viewing direction; para 0031, claim 61, claim 77). Therefore, it would have been obvious to a person of ordinary skill in the art at the time the invention was made to incorporate the direction module for capturing a direction of view as taught by Nestorovic et al into the combined system of Chen, Gollmar and Butler et al's so that desired image can be provided in accordance with the user's direction of view.

7. Claim 39-40, 42-47 and 50-52 are rejected under 35 U.S.C. 103(a) as being unpatentable over Chen in view of Gollmar as applied to claims 27-34, 37-38, 53 and 55-64 above, and further in view in view of Warren (Patent 7,013,009).

Regarding claim 39, the combination of Chen and Gollmar fails to teach the photovoltaic cells for a power supply. However, Warren teach an eyeglasses with wireless communication features mounted thereon where photovoltaic cells is used as power supply (col. 5, lines 32-33). Therefore, it would have been obvious to a person of ordinary skill in the art at the time the invention was made to use photovoltaic cells for a power supply as taught by Warren as a power source for Chen and Gollmar's system because this conventional battery is well-known in the art for use in electronic devices and is readily available in the market.

Regarding claims 40-41 and 42-47, Chen and Gollmar's system as discussed in rejecting claims 27 and 29-34 above fully support the steps and functions of these method claims except that Chen uses a wired interface rather than the wireless interface for communicating with the external device. However, Warrren teaches a wireless communication interface between the circuitry on the eyeglasses frame to the external device (see Fig. 1 and abstract, lines 1-4). Therefore, it would have been obvious to a person of ordinary skill in the art at the time the invention was made to substitute wired communication of Chen and Gollmar's system with wireless interface of Warren's because wireless communication eliminates the messy wire(s) required by the wired communication.

Regarding claim 51, the combined method of Chen, Gollmar and Warren's further discloses Bluetooth interface for transmitting captured signals to the external device (col. 4, lines 65).

Regarding claim 52, the combined method of Chen, Gollmar and Warren's further discloses photovoltaic cells is used as power supply (see Warren's col. 5, lines 32-33).

Regarding claim 50, the combination of Chen, Gollmar and Warren's fails to teach the capturing of spoken commands by a speech recognition module and the Bluetooth. However, the Examiner takes Official Notice, which is now considered admitted prior art since the Applicant has not challenged the Official Notice used in the prior office action, that speech recognition module for capturing spoken commands is very well-known in the art. Therefore, it would have been obvious to a person of ordinary skill in the art at the time the invention was made to incorporate the capturing spoken commands by speech recognition module into the combined method of Chen, Gollmar and Warren's so that certain functions can be conveniently carried out without physical manipulation.

8. Claim 48 is rejected under 35 U.S.C. 103(a) as being unpatentable over Chen in view of Gollmar and Warren as applied to claim 40 above, and further in view of Butler et al (Patent US 6,474,816).

Regarding claim 48, the combination of Chen, Gollmar and Warren fails to teach wherein the user has image data projected onto the retina using a retinal scanning

display. However, Butler et al teach an integrated retinal display mounted on the eyeglasses comprising means for retinal scanning display (see Fig. 1; col. 2, lines 23-34). Therefore, it would have been obvious to a person of ordinary skill in the art at the time the invention was made to incorporate the means for retinal scanning display as taught by Butler et al into the combined method of Chen, Gollmar and Warren's because this would allow the user to be able to view video display along with voice communication via an eyeglasses; thus avoiding additional external display device.

9. Claim 49 is rejected under 35 U.S.C. 103(a) as being unpatentable over Chen in view of Gollmar, Warren and Butler et al as applied to claim 48 above, and further in view of Nestorovic et al (Pub No. US 2004/0155186).

Regarding claim 49, the combination of Chen, Gollmar, Warren and Butler et al fails to teach wherein a direction of view of the user is captured by a module. However, Nestorovic et al teach capturing a direction of view used in the retinal scanning display (gaze tracker for detecting the gaze direction of the viewer so the image information is produced in response to the determined viewing direction; para 0031, claim 61, claim 77). Therefore, it would have been obvious to a person of ordinary skill in the art at the time the invention was made to incorporate the capturing a direction of view as taught by Nestorovic et al into the combined method of Chen, Gollmar, Warren and Butler et al's so that desired image can be provided in accordance with the user's direction of view.

10. Claim 54 is rejected under 35 U.S.C. 103(a) as being unpatentable over Chen in view of Gollmar as applied to claim 27 above, and further in view of Addeo et al (Patent 5,335,011; hereinafter referred to as Addeo).

Regarding claim 54, the combination of Chen and Gollmar fails to teach a control module configured to dynamically adjust the position of at least one directionally dependent microphone based on the voice signals captured by the second directionally dependent microphone. However, Addeo discloses a teleconference system where plurality of self-steering directional microphones are arranged to pick up voice signals from various places in the conference room, which upon detecting the source of sound by at least of those microphones, the microphones are dynamically controlled to steer toward the zone containing the source of sound to form a highly directional beam (col. 3, lines 6-26; col. 4, line 60 to col. 5, line 51). Therefore, it would have been obvious to a person of ordinary skill in the art at the time the invention was made to incorporate the dynamic adjusting of microphone's position based on direction of sound as taught by Addeo into the combined system of Chen and Gollmar's because this would improve audio quality by reducing ambient noise (Addeo's col. 5, lines 47-50).

Response to Arguments

11. Applicant's arguments with respect to claims 27-53 have been considered but are moot in view of the new ground(s) of rejection.

Conclusion

12. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Hai Phan whose telephone number is (571) 272-6338. The examiner can normally be reached on Monday-Friday (9:00AM-5:30PM).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Curtis Kuntz can be reached on 571-272-7499. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Hai Phan/
Primary Examiner, Art Unit 2614